OIPE

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/897,107 DATE: 11/20/2001

TIME: 10:09:44

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

ENTERED

```
3 <110> APPLICANT: YAMAGISHI, Akihiko
      5 <120> TITLE OF INVENTION: METHOD FOR IMPROVING THERMOSTABILITY OF PROTEINS, PROTEINS
HAVING
              THERMOSTABILITY IMPROVED BY THE METHOD AND NUCLEIC ACIDS ENCODING THE PROTEINS
      8 <130> FILE REFERENCE: 210383US0
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/897,107
     11 <141> CURRENT FILING DATE: 2001-07-03
     13 <150> PRIOR APPLICATION NUMBER: JP2000-201920
     14 <151> PRIOR FILING DATE: 2000-07-04
     16 <150> PRIOR APPLICATION NUMBER: JP2001-164332
     17 <151> PRIOR FILING DATE: 2001-05-31
     19 <160> NUMBER OF SEQ ID NOS: 104
     21 <170> SOFTWARE: PatentIn version 3.1
     23 <210> SEQ ID NO: 1
     24 <211> LENGTH: 9
     25 <212> TYPE: PRT
     26 <213> ORGANISM: Sulfolobus sp.
     28 <400> SEQUENCE: 1
     30 Tyr Asp Met Tyr Ala Asn Ile Arg Pro
     34 <210> SEQ ID NO: 2
     35 <211> LENGTH: 9
     36 <212> TYPE: PRT
     37 <213> ORGANISM: Sulfolobus sp.
     39 <400> SEQUENCE: 2
     41 Ile Ala Lys Val Gly Leu Asn Phe Ala
     45 <210> SEQ ID NO: 3
     46 <211> LENGTH: 8
     47 <212> TYPE: PRT
     48 <213> ORGANISM: Sulfolobus sp.
     50 <400> SEQUENCE: 3
    52 Val His Gly Ala Ala Phe Asp Ile
     56 <210> SEQ ID NO: 4
     57 <211> LENGTH: 6
     58 <212> TYPE: PRT
     59 <213> ORGANISM: Sulfolobus sp.
   61 <400> SEQUENCE: 4
     63 Met Met Tyr Glu Arg Met
     67 <210> SEQ ID NO: 5
     68 <211> LENGTH: 9
     69 <212> TYPE: PRT
     70 <213> ORGANISM: Thermus thermophilus
     72 <400> SEQUENCE: 5
     74 Gln Asp Leu Phe Ala Asn Leu Arg Pro
     75 1
```

RAW SEQUENCE LISTING DATE: 11/20/2001 PATENT APPLICATION: US/09/897,107 TIME: 10:09:44

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

```
78 <210> SEQ ID NO: 6
79 <211> LENGTH: 9
80 <212> TYPE: PRT
81 <213> ORGANISM: Thermus thermophilus
83 <400> SEQUENCE: 6
85 Val Ala Arg Val Ala Phe Glu Ala Ala
89 <210> SEQ ID NO: 7
90 <211> LENGTH: 8
91 <212> TYPE: PRT
92 <213> ORGANISM: Thermus thermophilus
94 <400> SEQUENCE: 7
96 Val His Gly Ser Ala Pro Asp Ile
97 1
100 <210> SEQ ID NO: 8
101 <211> LENGTH: 6
102 <212> TYPE: PRT
103 <213> ORGANISM: Thermus thermophilus
105 <400> SEQUENCE: 8
107 Met Met Leu Glu His Ala
108 1
111 <210> SEQ ID NO: 9
112 <211> LENGTH: 9
113 <212> TYPE: PRT
114 <213> ORGANISM: Bacillus subtilis
116 <400> SEQUENCE: 9
118 Leu Asp Leu Phe Ala Asn Leu Arg Pro
119 1
122 <210> SEQ ID NO: 10
123 <211> LENGTH: 9
124 <212> TYPE: PRT
125 <213> ORGANISM: Bacillus subtilis
127 <400> SEQUENCE: 10
129 Val Ile Arg Glu Gly Phe Lys Met Ala
130 1
133 <210> SEQ ID NO: 11
134 <211> LENGTH: 8
135 <212> TYPE: PRT
136 <213> ORGANISM: Bacillus subtilis
138 <400> SEQUENCE: 11
140 Val His Gly Ser Ala Pro Asp Ile
141 1
144 <210> SEQ ID NO: 12
145 <211> LENGTH: 6
146 <212> TYPE: PRT
147 <213> ORGANISM: Bacillus subtilis
149 <400> SEQUENCE: 12
151 Met Leu Leu Arg Thr Ser
152 1
```

RAW SEQUENCE LISTING DATE: 11/20/2001 PATENT APPLICATION: US/09/897,107 TIME: 10:09:44

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

```
155 <210> SEQ ID NO: 13
156 <211> LENGTH: 9
157 <212> TYPE: PRT
158 <213> ORGANISM: Escherichia coli
160 <400> SEQUENCE: 13
162 Phe Lys Leu Phe Ser Asn Leu Arg Pro
166 <210> SEQ ID NO: 14
167 <211> LENGTH: 9
168 <212> TYPE: PRT
169 <213> ORGANISM: Escherichia coli
171 <400> SEQUENCE: 14
173 Ile Ala Arg Ile Ala Phe Glu Ser Ala
174 1
177 <210> SEQ ID NO: 15
178 <211> LENGTH: 8
179 <212> TYPE: PRT
180 <213> ORGANISM: Escherichia coli
182 <400> SEQUENCE: 15
184 Ala Gly Gly Ser Ala Pro Asp Ile
185 1
188 <210> SEQ ID NO: 16
189 <211> LENGTH: 6
190 <212> TYPE: PRT
191 <213> ORGANISM: Escherichia coli
193 <400> SEQUENCE: 16
195 Leu Leu Leu Arg Tyr Ser
196 1
199 <210> SEQ ID NO: 17
200 <211> LENGTH: 9
201 <212> TYPE: PRT
202 <213> ORGANISM: Agrobacterium tumefaciens
204 <400> SEQUENCE: 17
206 Leu Glu Leu Phe Ala Asn Leu Arg Pro
207 1
210 <210> SEQ ID NO: 18
211 <211> LENGTH: 9
212 <212> TYPE: PRT
213 <213> ORGANISM: Agrobacterium tumefaciens
215 <400> SEQUENCE: 18
217 Ile Ala Ser Val Ala Phe Glu Leu Ala
218 1
221 <210> SEQ ID NO: 19
222 <211> LENGTH: 8
223 <212> TYPE: 'PRT
224 <213> ORGANISM: Agrobacterium tumefaciens
226 <400> SEQUENCE: 19
228 Val His Gly Ser Ala Pro Asp Ile
229 1
```

RAW SEQUENCE LISTING

DATE: 11/20/2001 TIME: 10:09:44

PATENT APPLICATION: US/09/897,107

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

```
232 <210> SEQ ID NO: 20
233 <211> LENGTH: 6
234 <212> TYPE: PRT
235 <213> ORGANISM: Agrobacterium tumefaciens
237 <400> SEQUENCE: 20
239 Met Cys Leu Arg Tyr Ser
240 1
243 <210> SEQ ID NO: 21
244 <211> LENGTH: 9
245 <212> TYPE: PRT
246 <213> ORGANISM: Saccharomyces cerevisiae
248 <400> SEQUENCE: 21
250 Leu Gln Leu Tyr Ala Asn Leu Arg Pro
251 1
254 <210> SEQ ID NO: 22
255 <211> LENGTH: 9
256 <212> TYPE: PRT
257 <213> ORGANISM: Saccharomyces cerevisiae
259 <400> SEQUENCE: 22
261 Ile Thr Arg Met Ala Ala Phe Met Ala
262 1
265 <210> SEQ ID NO: 23
266 <211> LENGTH: 8
267 <212> TYPE: PRT
268 <213> ORGANISM: Saccharomyces cerevisiae
270 <400> SEQUENCE: 23
272 Cys His Gly Ser Ala Pro Asp Leu
273 1
276 <210> SEQ ID NO: 24
277 <211> LENGTH: 6
278 <212> TYPE: PRT
279 <213> ORGANISM: Saccharomyces cerevisiae
281 <400> SEQUENCE: 24
283 Met Met Leu Lys Leu Ser
284 1
287 <210> SEQ ID NO: 25
288 <211> LENGTH: 9
289 <212> TYPE: PRT
290 <213> ORGANISM: Neurospora crassa
292 <400> SEQUENCE: 25
294 Leu Gly Thr Tyr Gly Asn Leu Arg Pro
295 1
298 <210> SEQ ID NO: 26
299 <211> LENGTH: 9
300 <212> TYPE: PRT
301 <213> ORGANISM: Neurospora crassa
303 <400> SEQUENCE: 26
305 Ile Ala Arg Leu Ala Gly Phe Leu Ala
306 1
```



RAW SEQUENCE LISTING

DATE: 11/20/2001

PATENT APPLICATION: US/09/897,107

TIME: 10:09:44

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

```
309 <210> SEQ ID NO: 27
310 <211> LENGTH: 8
311 <212> TYPE: PRT
312 <213> ORGANISM: Neurospora crassa
314 <400> SEQUENCE: 27
316 Ile His Gly Ser Ala Pro Asp Ile
317 1
320 <210> SEQ ID NO: 28
321 <211> LENGTH: 6
322 <212> TYPE: PRT
323 <213> ORGANISM: Neurospora crassa
325 <400> SEQUENCE: 28
327 Met Met Leu Arg Tyr Ser
328 1
331 <210> SEQ ID NO: 29
332 <211> LENGTH: 9
333 <212> TYPE: PRT
334 <213> ORGANISM: Saccharomyces cerevisiae
336 <400> SEQUENCE: 29
338 Phe Gly Leu Phe Ala Asn Val Arg Pro
339 1
342 <210> SEQ ID NO: 30
343 <211> LENGTH: 9
344 <212> TYPE: PRT
345 <213> ORGANISM: Bos taurus
347 <400> SEQUENCE: 30
349 Val Ile Arg Tyr Ala Phe Glu Tyr Ala
350 1
353 <210> SEQ ID NO: 31
354 <211> LENGTH: 8
355 <212> TYPE: PRT
356 <213> ORGANISM: Saccharomyces cerevisiae
358 <400> SEQUENCE: 31
360 Val His Gly Ser Ala Pro Asp Ile
361 1
364 <210> SEQ ID NO: 32
365 <211> LENGTH: 6
366 <212> TYPE: PRT
367 <213> ORGANISM: Saccharomyces cerevisiae
369 <400> SEQUENCE: 32
371 Met Met Leu Asn His Met
372 1
375 <210> SEQ ID NO: 33
376 <211> LENGTH: 9
377 <212> TYPE: PRT
378 <213> ORGANISM: Bos taurus
380 <400> SEQUENCE: 33
382 Phe Asp Leu Tyr Ala Asn Val Arg Pro
383 1
```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

DATE: 11/20/2001

PATENT APPLICATION: US/09/897,107

TIME: 10:09:45

Input Set : A:\ES.txt

Output Set: N:\CRF3\11202001\1897107.raw

 ${\tt L:10~M:270~C:~Current~Application~Number~differs,~Replaced~Current~Application~Number}$ 

L:529 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 L:561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 L:607 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48